



Sequence Listing.txt
SEQUENCE LISTING

#3
RECEIVED
OCT 02 2001
TECH CENTER 1600/2960

<110> Novartis Inc.

<120> Methods and Compositions for Controlling Pathological and Protein Assembly or Aggregation

<130> 42108/26146

<140> 09/904,987

<141> 2001-07-12

<160> 7

<170> PatentIn version 3.0

<210> 1

<211> 43

<212> PRT

<213> homo sapiens

<300>

<308> NCBI ENTREZ / QRHUA4

<309> 2000-09-15

<313> (672)..(714)

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1 5 10 15

Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile
20 25 30

Gly Leu Met Val Gly Gly Val Val Ile Ala Thr
35 40

<210> 2

<211> 770

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<300>

<308> NCBI ENTREZ / QRHUA4

<309> 2000-09-15

<313> (1)..(770)

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<400> 2

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Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
          20          25          30
Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
          35          40          45
Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
          50          55          60
Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65          70          75          80
Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
          85          90          95
Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
          100          105          110
Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
          115          120          125
Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
          130          135          140
Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145          150          155          160
Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
          165          170          175
Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
          180          185          190
Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
          195          200          205
Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
          210          215          220
Val Val Glu Val Ala Glu Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225          230          235          240
Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu

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255

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500

505

510

Glu	His	Val	Arg	Met	Val	Asp	Pro	Lys	Lys	Ala	Ala	Gln	Ile	Arg	Ser
		515					520					525			
Gln	Val	Met	Thr	His	Leu	Arg	Val	Ile	Tyr	Glu	Arg	Met	Asn	Gln	Ser
		530				535					540				
Leu	Ser	Leu	Leu	Tyr	Asn	Val	Pro	Ala	Val	Ala	Glu	Glu	Ile	Gln	Asp
545					550					555					560
Glu	Val	Asp	Glu	Leu	Leu	Gln	Lys	Glu	Gln	Asn	Tyr	Ser	Asp	Asp	Val
				565					570					575	
Leu	Ala	Asn	Met	Ile	Ser	Glu	Pro	Arg	Ile	Ser	Tyr	Gly	Asn	Asp	Ala
			580					585					590		
Leu	Met	Pro	Ser	Leu	Thr	Glu	Thr	Lys	Thr	Thr	Val	Glu	Leu	Leu	Pro
		595					600					605			
Val	Asn	Gly	Glu	Phe	Ser	Leu	Asp	Asp	Leu	Gln	Pro	Trp	His	Ser	Phe
	610					615					620				
Gly	Ala	Asp	Ser	Val	Pro	Ala	Asn	Thr	Glu	Asn	Glu	Val	Glu	Pro	Val
625					630					635					640
Asp	Ala	Arg	Pro	Ala	Ala	Asp	Arg	Gly	Leu	Thr	Thr	Arg	Pro	Gly	Ser
				645					650					655	
Gly	Leu	Thr	Asn	Ile	Lys	Thr	Glu	Glu	Ile	Ser	Glu	Val	Lys	Met	Asp
			660					665					670		
Ala	Glu	Phe	Arg	His	Asp	Ser	Gly	Tyr	Glu	Val	His	His	Gln	Lys	Leu
		675					680					685			
Val	Phe	Phe	Ala	Glu	Asp	Val	Gly	Ser	Asn	Lys	Gly	Ala	Ile	Ile	Gly
	690					695					700				
Leu	Met	Val	Gly	Gly	Val	Val	Ile	Ala	Thr	Val	Ile	Val	Ile	Thr	Leu
705					710					715					720
Val	Met	Leu	Lys	Lys	Lys	Gln	Tyr	Thr	Ser	Ile	His	His	Gly	Val	Val
				725					730					735	
Glu	Val	Asp	Ala	Ala	Val	Thr	Pro	Glu	Glu	Arg	His	Leu	Ser	Lys	Met
			740					745					750		
Gln	Gln	Asn	Gly	Tyr	Glu	Asn	Pro	Thr	Tyr	Lys	Phe	Phe	Glu	Gln	Met

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755

760

765

Gln Asn

770

<210> 3

<211> 253

<212> PRT

<213> homo sapiens

<300>

<308> NCBI ENTREZ / XM_009567

<309> 2001-04-17

<313> (1)..(253)

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		20						25					30		

Thr	Gly	Gly	Ser	Arg	Tyr	Pro	Gly	Gln	Gly	Ser	Pro	Gly	Gly	Asn	Arg
		35					40					45			

Tyr	Pro	Pro	Gln	Gly	Gly	Gly	Gly	Trp	Gly	Gln	Pro	His	Gly	Gly	Gly
	50					55					60				

Trp	Gly	Gln	Pro	His	Gly	Gly	Gly	Trp	Gly	Gln	Pro	His	Gly	Gly	Gly
65					70					75					80

Trp	Gly	Gln	Pro	His	Gly	Gly	Gly	Trp	Gly	Gln	Gly	Gly	Gly	Thr	His
				85					90					95	

Ser	Gln	Trp	Asn	Lys	Pro	Ser	Lys	Pro	Lys	Thr	Asn	Met	Lys	His	Met
			100					105					110		

Ala	Gly	Ala	Ala	Ala	Ala	Gly	Ala	Val	Val	Gly	Gly	Leu	Gly	Gly	Tyr
		115					120					125			

Met	Leu	Gly	Ser	Ala	Met	Ser	Arg	Pro	Ile	Ile	His	Phe	Gly	Ser	Asp
	130					135					140				

Tyr	Glu	Asp	Arg	Tyr	Tyr	Arg	Glu	Asn	Met	His	Arg	Tyr	Pro	Asn	Gln
145					150					155					160

Val	Tyr	Tyr	Arg	Pro	Met	Asp	Glu	Tyr	Ser	Asn	Gln	Asn	Asn	Phe	Val
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

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165

170

175

His Asp Cys Val Asn Ile Thr Ile Lys Gln His Thr Val Thr Thr Thr
 180 185 190
 Thr Lys Gly Glu Asn Phe Thr Glu Thr Asp Val Lys Met Met Glu Arg
 195 200 205
 Val Val Glu Gln Met Cys Ile Thr Gln Tyr Glu Arg Glu Ser Gln Ala
 210 215 220
 Tyr Tyr Gln Arg Gly Ser Ser Met Val Leu Phe Ser Ser Pro Pro Val
 225 230 235 240
 Ile Leu Leu Ile Ser Phe Leu Ile Phe Leu Ile Val Gly
 245 250

<210> 4
 <211> 140
 <212> PRT
 <213> homo sapiens

<300>
 <308> NCBI ENTREZ / XM_003494
 <309> 2001-04-16
 <313> (1)..(140)

<400> 4

Met Asp Val Phe Met Lys Gly Leu Ser Lys Ala Lys Glu Gly Val Val
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 Ala Ala Ala Glu Lys Thr Lys Gln Gly Val Ala Glu Ala Ala Gly Lys
 20 25 30
 Thr Lys Glu Gly Val Leu Tyr Val Gly Ser Lys Thr Lys Glu Gly Val
 35 40 45
 Val His Gly Val Ala Thr Val Ala Glu Lys Thr Lys Glu Gln Val Thr
 50 55 60
 Asn Val Gly Gly Ala Val Val Thr Gly Val Thr Ala Val Ala Gln Lys
 65 70 75 80
 Thr Val Glu Gly Ala Gly Ser Ile Ala Ala Ala Thr Gly Phe Val Lys
 85 90 95
 Lys Asp Gln Leu Gly Lys Asn Glu Glu Gly Ala Pro Gln Glu Gly Ile

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100

105

110

Leu Glu Asp Met Pro Val Asp Pro Asp Asn Glu Ala Tyr Glu Met Pro
 115 120 125

Ser Glu Glu Gly Tyr Gln Asp Tyr Glu Pro Glu Ala
 130 135 140

<210> 5
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 <212> PRT
 <213> homo sapiens

<300>
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 <309> 2001-02-13
 <313> (1)..(758)

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Met Ala Glu Pro Arg Gln Glu Phe Glu Val Met Glu Asp His Ala Gly
 1 5 10 15

Thr Tyr Gly Leu Gly Asp Arg Lys Asp Gln Gly Gly Tyr Thr Met His
 20 25 30

Gln Asp Gln Glu Gly Asp Thr Asp Ala Gly Leu Lys Glu Ser Pro Leu
 35 40 45

Gln Thr Pro Thr Glu Asp Gly Ser Glu Glu Pro Gly Ser Glu Thr Ser
 50 55 60

Asp Ala Lys Ser Thr Pro Thr Ala Glu Asp Val Thr Ala Pro Leu Val
 65 70 75 80

Asp Glu Gly Ala Pro Gly Lys Gln Ala Ala Ala Gln Pro His Thr Glu
 85 90 95

Ile Pro Glu Gly Thr Thr Ala Glu Glu Ala Gly Ile Gly Asp Thr Pro
 100 105 110

Ser Leu Glu Asp Glu Ala Ala Gly His Val Thr Gln Glu Pro Glu Ser
 115 120 125

Gly Lys Val Val Gln Glu Gly Phe Leu Arg Glu Pro Gly Pro Pro Gly
 130 135 140

Leu Ser His Gln Leu Met Ser Gly Met Pro Gly Ala Pro Leu Leu Pro

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145					150					155					160
Glu	Gly	Pro	Arg	Glu	Ala	Thr	Arg	Gln	Pro	Ser	Gly	Thr	Gly	Pro	Glu
				165					170					175	
Asp	Thr	Glu	Gly	Gly	Arg	His	Ala	Pro	Glu	Leu	Leu	Lys	His	Gln	Leu
			180					185					190		
Leu	Gly	Asp	Leu	His	Gln	Glu	Gly	Pro	Pro	Leu	Lys	Gly	Ala	Gly	Gly
		195					200					205			
Lys	Glu	Arg	Pro	Gly	Ser	Lys	Glu	Glu	Val	Asp	Glu	Asp	Arg	Asp	Val
	210					215					220				
Asp	Glu	Ser	Ser	Pro	Gln	Asp	Ser	Pro	Pro	Ser	Lys	Ala	Ser	Pro	Ala
225					230					235					240
Gln	Asp	Gly	Arg	Pro	Pro	Gln	Thr	Ala	Ala	Arg	Glu	Ala	Thr	Ser	Ile
				245					250					255	
Pro	Gly	Phe	Pro	Ala	Glu	Gly	Ala	Ile	Pro	Leu	Pro	Val	Asp	Phe	Leu
			260					265					270		
Ser	Lys	Val	Ser	Thr	Glu	Ile	Pro	Ala	Ser	Glu	Pro	Asp	Gly	Pro	Ser
		275					280					285			
Val	Gly	Arg	Ala	Lys	Gly	Gln	Asp	Ala	Pro	Leu	Glu	Phe	Thr	Phe	His
	290					295					300				
Val	Glu	Ile	Thr	Pro	Asn	Val	Gln	Lys	Glu	Gln	Ala	His	Ser	Glu	Glu
305					310					315					320
His	Leu	Gly	Arg	Ala	Ala	Phe	Pro	Gly	Ala	Pro	Gly	Glu	Gly	Pro	Glu
				325					330					335	
Ala	Arg	Gly	Pro	Ser	Leu	Gly	Glu	Asp	Thr	Lys	Glu	Ala	Asp	Leu	Pro
			340					345					350		
Glu	Pro	Ser	Glu	Lys	Gln	Pro	Ala	Ala	Ala	Pro	Arg	Gly	Lys	Pro	Val
		355					360					365			
Ser	Arg	Val	Pro	Gln	Leu	Lys	Ala	Arg	Met	Val	Ser	Lys	Ser	Lys	Asp
	370					375					380				
Gly	Thr	Gly	Ser	Asp	Asp	Lys	Lys	Ala	Lys	Thr	Ser	Thr	Arg	Ser	Ser
385					390					395					400
Ala	Lys	Thr	Leu	Lys	Asn	Arg	Pro	Cys	Leu	Ser	Pro	Lys	Leu	Pro	Thr

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405

410

415

Pro	Gly	Ser	Ser	Asp	Pro	Leu	Ile	Gln	Pro	Ser	Ser	Pro	Ala	Val	Cys
			420					425					430		
Pro	Glu	Pro	Pro	Ser	Ser	Pro	Lys	His	Val	Ser	Ser	Val	Thr	Ser	Arg
		435					440					445			
Thr	Gly	Ser	Ser	Gly	Ala	Lys	Glu	Met	Lys	Leu	Lys	Gly	Ala	Asp	Gly
	450					455					460				
Lys	Thr	Lys	Ile	Ala	Thr	Pro	Arg	Gly	Ala	Ala	Pro	Pro	Gly	Gln	Lys
465					470					475					480
Gly	Gln	Ala	Asn	Ala	Thr	Arg	Ile	Pro	Ala	Lys	Thr	Pro	Pro	Ala	Pro
				485					490					495	
Lys	Thr	Pro	Pro	Ser	Ser	Gly	Glu	Pro	Pro	Lys	Ser	Gly	Asp	Arg	Ser
			500					505					510		
Gly	Tyr	Ser	Ser	Pro	Gly	Ser	Pro	Gly	Thr	Pro	Gly	Ser	Arg	Ser	Arg
		515					520					525			
Thr	Pro	Ser	Leu	Pro	Thr	Pro	Pro	Thr	Arg	Glu	Pro	Lys	Lys	Val	Ala
	530					535					540				
Val	Val	Arg	Thr	Pro	Pro	Lys	Ser	Pro	Ser	Ser	Ala	Lys	Ser	Arg	Leu
545					550					555					560
Gln	Thr	Ala	Pro	Val	Pro	Met	Pro	Asp	Leu	Lys	Asn	Val	Lys	Ser	Lys
				565					570					575	
Ile	Gly	Ser	Thr	Glu	Asn	Leu	Lys	His	Gln	Pro	Gly	Gly	Gly	Lys	Val
			580					585					590		
Gln	Ile	Ile	Asn	Lys	Lys	Leu	Asp	Leu	Ser	Asn	Val	Gln	Ser	Lys	Cys
		595					600					605			
Gly	Ser	Lys	Asp	Asn	Ile	Lys	His	Val	Pro	Gly	Gly	Gly	Ser	Val	Gln
	610					615					620				
Ile	Val	Tyr	Lys	Pro	Val	Asp	Leu	Ser	Lys	Val	Thr	Ser	Lys	Cys	Gly
625					630					635					640
Ser	Leu	Gly	Asn	Ile	His	His	Lys	Pro	Gly	Gly	Gly	Gln	Val	Glu	Val
				645					650					655	
Lys	Ser	Glu	Lys	Leu	Asp	Phe	Lys	Asp	Arg	Val	Gln	Ser	Lys	Ile	Gly

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660

665

670

Ser Leu Asp Asn Ile Thr His Val Pro Gly Gly Gly Asn Lys Lys Ile
 675 680 685

Glu Thr His Lys Leu Thr Phe Arg Glu Asn Ala Lys Ala Lys Thr Asp
 690 695 700

His Gly Ala Glu Ile Val Tyr Lys Ser Pro Val Val Ser Gly Asp Thr
 705 710 715 720

Ser Pro Arg His Leu Ser Asn Val Ser Ser Thr Gly Ser Ile Asp Met
 725 730 735

Val Asp Ser Pro Gln Leu Ala Thr Leu Ala Asp Glu Val Ser Ala Ser
 740 745 750

Leu Ala Lys Gln Gly Leu
 755

<210> 6

<211> 154

<212> PRT

<213> homo sapiens

<300>

<308> NCBI ENTREZ / P00441

<309> 2000-05-30

<313> (1)..(154)

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Gly Ile Ile Asn Phe Glu Gln Lys Glu Ser Asn Gly Pro Val Lys Val
 20 25 30

Trp Gly Ser Ile Lys Gly Leu Thr Glu Gly Leu His Gly Phe His Val
 35 40 45

His Glu Phe Gly Asp Asn Thr Ala Gly Cys Thr Ser Ala Gly Pro His
 50 55 60

Phe Asn Pro Leu Ser Arg Lys His Gly Gly Pro Lys Asp Glu Glu Arg
 65 70 75 80

His Val Gly Asp Leu Gly Asn Val Thr Ala Asp Lys Asp Gly Val Ala

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85

90

95

Asp Val Ser Ile Glu Asp Ser Val Ile Ser Leu Ser Gly Asp His Cys
100 105 110

Ile Ile Gly Arg Thr Leu Val Val His Glu Lys Ala Asp Asp Leu Gly
115 120 125

Lys Gly Gly Asn Glu Glu Ser Thr Lys Thr Gly Asn Ala Gly Ser Arg
130 135 140

Leu Ala Cys Gly Val Ile Gly Ile Ala Gln
145 150

<210> 7

<211> 1543

<212> PRT

<213> homo sapiens

<300>

<308> NCBI ENTREZ / XP_003405

<309> 2001-04-16

<313> (1)..(1543)

<400> 7

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Phe Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln
20 25 30

Gln Gln Gln Gln Gln Pro Pro Pro Pro Pro Pro Pro Pro Pro Pro
35 40 45

Gln Leu Pro Gln Pro Pro Pro Gln Ala Gln Pro Leu Leu Pro Gln Pro
50 55 60

Gln Pro Pro Pro Pro Pro Pro Pro Pro Pro Pro Gly Pro Ala Val Ala
65 70 75 80

Glu Glu Pro Leu His Arg Pro Lys Lys Glu Leu Ser Ala Thr Lys Lys
85 90 95

Asp Arg Val Asn His Cys Leu Thr Ile Cys Glu Asn Ile Val Ala Gln
100 105 110

Ser Val Arg Asn Ser Pro Glu Phe Gln Lys Leu Leu Gly Ile Ala Met

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115	120	125
Glu Leu Phe Leu Leu Cys Ser Asp Asp Ala Glu Ser Asp Val Arg Met 130 135 140		
Val Ala Asp Glu Cys Leu Asn Lys Val Ile Lys Ala Leu Met Asp Ser 145 150 155 160		
Asn Leu Pro Arg Leu Gln Leu Glu Leu Tyr Lys Glu Ile Lys Lys Asn 165 170 175		
Gly Ala Pro Arg Ser Leu Arg Ala Ala Leu Trp Arg Phe Ala Glu Leu 180 185 190		
Ala His Leu Val Arg Pro Gln Lys Cys Arg Pro Tyr Leu Val Asn Leu 195 200 205		
Leu Pro Cys Leu Thr Arg Thr Ser Lys Arg Pro Glu Glu Ser Val Gln 210 215 220		
Glu Thr Leu Ala Ala Ala Val Pro Lys Ile Met Ala Ser Phe Gly Asn 225 230 235 240		
Phe Ala Asn Asp Asn Glu Ile Lys Val Leu Leu Lys Ala Phe Ile Ala 245 250 255		
Asn Leu Lys Ser Ser Ser Pro Thr Ile Arg Arg Thr Ala Ala Gly Ser 260 265 270		
Ala Val Ser Ile Cys Gln His Ser Arg Arg Thr Gln Tyr Phe Tyr Ser 275 280 285		
Trp Leu Leu Asn Val Leu Leu Gly Leu Leu Val Pro Val Glu Asp Glu 290 295 300		
His Ser Thr Leu Leu Ile Leu Gly Val Leu Leu Thr Leu Arg Tyr Leu 305 310 315 320		
Val Pro Leu Leu Gln Gln Gln Val Lys Asp Thr Ser Leu Lys Gly Ser 325 330 335		
Phe Gly Val Thr Arg Lys Glu Met Glu Val Ser Pro Ser Ala Glu Gln 340 345 350		
Leu Val Gln Val Tyr Glu Leu Thr Leu His His Thr Gln His Gln Asp 355 360 365		
His Asn Val Val Thr Gly Ala Leu Glu Leu Leu Gln Gln Leu Phe Arg		

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370		375		380											
Thr	Pro	Pro	Pro	Glu	Leu	Leu	Gln	Thr	Leu	Thr	Ala	Val	Gly	Gly	Ile
385				390					395						400
Gly	Gln	Leu	Thr	Ala	Ala	Lys	Glu	Glu	Ser	Gly	Gly	Arg	Ser	Arg	Ser
				405					410					415	
Gly	Ser	Ile	Val	Glu	Leu	Ile	Ala	Gly	Gly	Gly	Ser	Ser	Cys	Ser	Pro
			420					425					430		
Val	Leu	Ser	Arg	Lys	Gln	Lys	Gly	Lys	Val	Leu	Leu	Gly	Glu	Glu	Glu
		435					440					445			
Ala	Leu	Glu	Asp	Asp	Ser	Glu	Ser	Arg	Ser	Asp	Val	Ser	Ser	Ser	Ala
	450					455					460				
Leu	Thr	Ala	Ser	Val	Lys	Asp	Glu	Ile	Ser	Gly	Glu	Leu	Ala	Ala	Ser
465					470					475					480
Ser	Gly	Val	Ser	Thr	Pro	Gly	Ser	Ala	Gly	His	Asp	Ile	Ile	Thr	Glu
				485					490					495	
Gln	Pro	Arg	Ser	Gln	His	Thr	Leu	Gln	Ala	Asp	Ser	Val	Asp	Leu	Ala
			500					505					510		
Ser	Cys	Asp	Leu	Thr	Ser	Ser	Ala	Thr	Asp	Gly	Asp	Glu	Glu	Asp	Ile
		515					520					525			
Leu	Ser	His	Ser	Ser	Ser	Gln	Val	Ser	Ala	Val	Pro	Ser	Asp	Pro	Ala
	530					535					540				
Met	Asp	Leu	Asn	Asp	Gly	Thr	Gln	Ala	Ser	Ser	Pro	Ile	Ser	Asp	Ser
545					550					555					560
Ser	Gln	Thr	Thr	Thr	Glu	Gly	Pro	Asp	Ser	Ala	Val	Thr	Pro	Ser	Asp
				565					570					575	
Ser	Ser	Glu	Ile	Val	Leu	Asp	Gly	Thr	Asp	Asn	Gln	Tyr	Leu	Gly	Leu
			580					585					590		
Gln	Ile	Gly	Gln	Pro	Gln	Asp	Glu	Asp	Glu	Glu	Ala	Thr	Gly	Ile	Leu
		595					600					605			
Pro	Asp	Glu	Ala	Ser	Glu	Ala	Phe	Arg	Asn	Ser	Ser	Met	Ala	Leu	Gln
	610					615					620				
Gln	Ala	His	Leu	Leu	Lys	Asn	Met	Ser	His	Cys	Arg	Gln	Pro	Ser	Asp

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625					630					635					640
Ser	Ser	Val	Asp	Lys	Phe	Val	Leu	Arg	Asp	Glu	Ala	Thr	Glu	Pro	Gly
				645					650					655	
Asp	Gln	Glu	Asn	Lys	Pro	Cys	Arg	Ile	Lys	Gly	Asp	Ile	Gly	Gln	Ser
			660					665					670		
Thr	Asp	Asp	Asp	Ser	Ala	Pro	Leu	Val	His	Cys	Val	Arg	Leu	Leu	Ser
		675					680					685			
Ala	Ser	Phe	Leu	Leu	Thr	Gly	Gly	Lys	Asn	Val	Leu	Val	Pro	Asp	Arg
	690					695					700				
Asp	Val	Arg	Val	Ser	Val	Lys	Ala	Leu	Ala	Leu	Ser	Cys	Val	Gly	Ala
705					710					715					720
Ala	Val	Ala	Leu	His	Pro	Glu	Ser	Phe	Phe	Ser	Lys	Leu	Tyr	Lys	Val
				725					730					735	
Pro	Leu	Asp	Thr	Thr	Glu	Tyr	Pro	Glu	Glu	Gln	Tyr	Val	Ser	Asp	Ile
			740					745					750		
Leu	Asn	Tyr	Ile	Asp	His	Gly	Asp	Pro	Gln	Val	Arg	Gly	Ala	Thr	Ala
		755					760					765			
Ile	Leu	Cys	Gly	Thr	Leu	Ile	Cys	Ser	Ile	Leu	Ser	Arg	Ser	Arg	Phe
	770					775					780				
His	Val	Gly	Asp	Trp	Met	Gly	Thr	Ile	Arg	Thr	Leu	Thr	Gly	Asn	Thr
785					790					795					800
Phe	Ser	Leu	Ala	Asp	Cys	Ile	Pro	Leu	Leu	Arg	Lys	Thr	Leu	Lys	Asp
				805					810					815	
Glu	Ser	Ser	Val	Thr	Cys	Lys	Leu	Ala	Cys	Thr	Ala	Val	Arg	Asn	Cys
			820					825					830		
Val	Met	Ser	Leu	Cys	Ser	Ser	Ser	Tyr	Ser	Glu	Leu	Gly	Leu	Gln	Leu
		835					840					845			
Ile	Ile	Asp	Val	Leu	Thr	Leu	Arg	Asn	Ser	Ser	Tyr	Trp	Leu	Val	Arg
	850					855					860				
Thr	Glu	Leu	Leu	Glu	Thr	Leu	Ala	Glu	Ile	Asp	Phe	Arg	Leu	Val	Ser
865					870					875					880
Phe	Leu	Glu	Ala	Lys	Ala	Glu	Asn	Leu	His	Arg	Gly	Ala	His	His	Tyr

Sequence Listing.txt

885

890

895

Thr	Gly	Leu	Leu	Lys	Leu	Gln	Glu	Arg	Val	Leu	Asn	Asn	Val	Val	Ile
		900						905					910		
His	Leu	Leu	Gly	Asp	Glu	Asp	Pro	Arg	Val	Arg	His	Val	Ala	Ala	Ala
	915						920					925			
Ser	Leu	Ile	Arg	Leu	Val	Pro	Lys	Leu	Phe	Tyr	Lys	Cys	Asp	Gln	Gly
	930					935					940				
Gln	Ala	Asp	Pro	Val	Val	Ala	Val	Ala	Arg	Asp	Gln	Ser	Ser	Val	Tyr
945				950					955						960
Leu	Lys	Leu	Leu	Met	His	Glu	Thr	Gln	Pro	Pro	Ser	His	Phe	Ser	Val
				965					970					975	
Ser	Thr	Ile	Thr	Arg	Ile	Tyr	Arg	Gly	Tyr	Asn	Leu	Leu	Pro	Ser	Ile
		980						985					990		
Thr	Asp	Val	Thr	Met	Glu	Asn	Asn	Leu	Ser	Arg	Val	Ile	Ala	Ala	Val
	995						1000					1005			
Ser	His	Glu	Leu	Ile	Thr	Ser	Thr	Thr	Arg	Ala	Leu	Thr	Phe	Gly	
	1010					1015					1020				
Cys	Cys	Glu	Ala	Leu	Cys	Leu	Leu	Ser	Thr	Ala	Phe	Pro	Val	Cys	
	1025					1030					1035				
Ile	Trp	Ser	Leu	Gly	Trp	His	Cys	Gly	Val	Pro	Pro	Leu	Ser	Ala	
	1040					1045					1050				
Ser	Asp	Glu	Ser	Arg	Lys	Ser	Cys	Thr	Val	Gly	Met	Ala	Thr	Met	
	1055					1060					1065				
Ile	Leu	Thr	Leu	Leu	Ser	Ser	Ala	Trp	Phe	Pro	Leu	Asp	Leu	Ser	
	1070					1075					1080				
Ala	His	Gln	Asp	Ala	Leu	Ile	Leu	Ala	Gly	Asn	Leu	Leu	Ala	Ala	
	1085					1090					1095				
Ser	Ala	Pro	Lys	Ser	Leu	Arg	Ser	Ser	Trp	Ala	Ser	Glu	Glu	Glu	
	1100					1105					1110				
Ala	Asn	Pro	Ala	Ala	Thr	Lys	Gln	Glu	Glu	Val	Trp	Pro	Ala	Leu	
	1115					1120					1125				
Gly	Asp	Arg	Ala	Leu	Val	Pro	Met	Val	Glu	Gln	Leu	Phe	Ser	His	

Sequence Listing.txt

1130		1135		1140
Leu 1145	Leu Lys Val Ile Asn	Ile 1150	Cys Ala His Val	Leu 1155
Ala 1160	Pro Gly Pro Ala Ile	Lys 1165	Ala Ala Leu Pro	Ser 1170
Pro 1175	Pro Ser Leu Ser Pro	Ile 1180	Arg Arg Lys Gly	Lys 1185
Pro 1190	Gly Glu Gln Ala Ser	Val 1195	Pro Leu Ser Pro	Lys 1200
Glu 1205	Ala Ser Ala Ala Ser	Arg 1210	Gln Ser Asp Thr	Ser 1215
Thr 1220	Thr Ser Lys Ser Ser	Ser 1225	Leu Gly Ser Phe	Tyr 1230
Ser 1235	Tyr Leu Lys Leu His	Asp 1240	Val Leu Lys Ala	Thr 1245
Tyr 1250	Lys Val Thr Leu Asp	Leu 1255	Gln Asn Ser Thr	Glu 1260
Gly 1265	Phe Leu Arg Ser Ala	Leu 1270	Asp Val Leu Ser	Gln 1275
Leu 1280	Ala Thr Leu Gln Asp	Ile 1285	Gly Lys Cys Val	Glu 1290
Gly 1295	Tyr Leu Lys Ser Cys	Phe 1300	Ser Arg Glu Pro	Met 1305
Val 1310	Cys Val Gln Gln Leu	Leu 1315	Lys Thr Leu Phe	Gly 1320
Ala 1325	Ser Gln Phe Asp Gly	Leu 1330	Ser Ser Asn Pro	Ser 1335
Gly 1340	Arg Ala Gln Arg Leu	Gly 1345	Ser Ser Ser Val	Arg 1350
Tyr 1355	His Tyr Cys Phe Met	Ala 1360	Pro Tyr Thr His	Phe 1365
Leu	Ala Asp Ala Ser Leu	Arg	Asn Met Val Gln	Ala
				Glu Gln Glu

1370

1380

Asn	Asp	Thr	Ser	Gly	Trp	Phe	Asp	Val	Leu	Gln	Lys	Val	Ser	Thr
1385						1390					1395			
Gln	Leu	Lys	Thr	Asn	Leu	Thr	Ser	Val	Thr	Lys	Asn	Arg	Ala	Asp
1400						1405					1410			
Lys	Asn	Ala	Ile	His	Asn	His	Ile	Arg	Leu	Phe	Glu	Pro	Leu	Val
1415						1420					1425			
Ile	Lys	Ala	Leu	Lys	Gln	Tyr	Thr	Thr	Thr	Thr	Cys	Val	Gln	Leu
1430						1435					1440			
Gln	Lys	Gln	Val	Leu	Asp	Leu	Leu	Ala	Gln	Leu	Val	Gln	Leu	Arg
1445						1450					1455			
Val	Asn	Tyr	Cys	Leu	Leu	Asp	Ser	Asp	Gln	Val	Phe	Ile	Gly	Phe
1460						1465					1470			
Val	Leu	Lys	Gln	Phe	Glu	Tyr	Ile	Glu	Val	Gly	Gln	Phe	Arg	Glu
1475						1480					1485			
Ser	Glu	Ala	Ile	Ile	Pro	Asn	Ile	Phe	Phe	Phe	Leu	Val	Leu	Leu
1490						1495					1500			
Ser	Tyr	Glu	Arg	Tyr	His	Ser	Lys	Gln	Ile	Ile	Gly	Ile	Pro	Lys
1505						1510					1515			
Ile	Ile	Gln	Leu	Cys	Asp	Gly	Ile	Met	Ala	Ser	Gly	Arg	Lys	Ala
1520						1525					1530			
Ser	Pro	Gln	Pro	Tyr	Arg	Leu	Cys	Ser	Pro					
1535						1540								